CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 97-022
NPDES NO. CA0038270

WASTE DISCHARGE REQUIREMENTS FOR:

EAST BAY MUNICIPAL UTILITY DISTRICT
WALNUT CREEK WATER TREATMENT PLANT
WALNUT CREEK, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter Board) finds that:

1. East Bay Municipal Utility District, hereinafter discharger, by application, dated September 27, 1994, has applied for renewal of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).

2. The discharger treats and produces an average of 28 million gallons per day (mgd) of drinking water. Treatment consists of chemical coagulation, filtration, disinfection and fluoridation. Chlorine, polyaluminum chloride, cationic polymer, caustic soda and fluoride are added in the treatment process. During 1997, the discharger intends to begin modifications at the facility to install new sodium hypochlorite and aqueous ammonia feed systems. The treatment generates wastewaters discharged by the following operating procedures:

   a. Four filters per day are backwashed which generate a total of 1 million gallons of backwash water per day. Normally, the backwash water is held in the washwater basin for settling and the supernatant is discharged to the aqueduct, which carries raw water to other drinking water filter plants. When problems occur in the treated drinking water, such as tastes and odors, the supernatant from the washwater settling basin may be discharged if necessary through outfall E-001 to Grayson Creek. There were no discharges to Grayson Creek during the past five years.

   b. Sludge from the washwater basin is discharged to the sludge detention basin, gravity thickened, and periodically hauled to the District's wastewater treatment facility in Oakland. The supernatant is pumped to the Lafayette Aqueduct unless there are taste and odor problems; in which case, the supernatant may be discharged if necessary to Grayson Creek via Outfall E-002.

3. Both outfalls are surface discharges to Grayson Creek. Outfall E-001 is a 16-inch diameter concrete pipe (Latitude 37 deg., 54 min., 53.6 sec.; Longitude 122 deg., 05 min., 00.8 sec.).

Outfall E-002 is a 6-inch diameter metal pipe (Latitude 37 deg., 54 min., 51.8 sec.; Longitude 122 deg., 05 min., 00.2 sec.).

4. The discharge is presently governed by Waste Discharge Requirements, Order No. 90-023, which allow discharge into Grayson Creek, a tributary to Carquinez Strait.

5. The Board adopted a revised Water Quality Control Plan for the San Francisco Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board (State Board) and the Office of Administrative Law on July 20, 1995 and November 13, 1995, respectively. The Basin Plan identifies beneficial uses and water quality objectives for waters of the State, including surface and groundwaters, as well as effluent limitations and discharge prohibitions intended to protect beneficial uses.

6. The beneficial uses of Grayson Creek, Carquinez Strait and contiguous water bodies are:

   a. Water contact recreation
   b. Non-contact water recreation
   c. Wildlife habitat
   d. Preservation of rare and endangered species
   e. Estuarine and warm fresh water habitat
   f. Fish migration and spawning
   g. Industrial service supply
   h. Navigation
   I. Commercial and Sport fishing

7. The discharge to Grayson Creek violates the Basin Plan's prohibitions against discharge of any wastewater which has characteristics of concern to beneficial uses into nontidal waters and at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1.

8. The discharge of wastewater in compliance with the requirements of this order qualifies for an exception to the Basin Plan prohibitions because an inordinate burden would be placed on the discharger relative to the beneficial uses protected. Also, an equivalent level of environmental protection will be achieved by the high quality of wastewater required by this Order for discharge.

9. This Order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

10. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the

opportunity for a public hearing and an opportunity to submit their written views and recommendations.

11. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT East Bay Municipal Utility District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastewater through Outfall E-001 is prohibited except when problems such as tastes and odors occur.

2. Discharge of wastewater through Outfall E-002 in excess of a monthly average flow of 20,000 gallons per day is prohibited except in case of emergency.

3. No sludge shall be discharged into watercourses or waters of the State.

4. There shall be no bypass of untreated wastewater to waters of the State.

B. Effluent Limitations

1. Effluent discharged shall not exceed the following limits:

Constituents	Units	30-day Average	Daily	Instantaneous Maximum
a. Total Suspended Solids	mg/l	15	30	---
b. Settleable Matter	ml/l-hr	0.1	0.2	---
c. Total Chlorine Residual[(1)]	mg/l	---	---	0.0
d. Aluminum Dissolved	mg/l	---	---	0.75

(1) Requirement defined as below limit of detection in standard test methods.

2. Waste shall not have a pH of less than 6.5 nor greater than 8.5, unless the raw influent water being filtered has a pH greater than 8.5, in which case the waste shall not have a pH greater than that of the influent water.

3. The discharge shall meet the following acute toxicity limitation:

   The survival of test fishes[1] in 96-hour bioassays of waste as discharged shall be a three sample[2] median value of not less than 90 percent survival, and a single sample value of not less than 70 percent survival.

   [1] Test fishes as specified by the Executive Officer in the Self-Monitoring Program.

   [2] A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if one of the past two or less bioassay tests show less than 90 percent survival.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any point.

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Increased turbidity above background levels by more than the following:

Receiving Water Background	Incremental Increase
<50 units (NTU)	5 units, maximum
50 - 100 units	10 units, maximum
>100 units	10 % of background, maximum

   e. Visible, floating, suspended, or deposited oil or other products of petroleum origin:

   f. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of this unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

   a. Dissolved Oxygen — 5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80 % saturation. When

natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.

b. Dissolved Sulfide — 0.1 mg/l maximum

c. pH — Variation from natural ambient pH by more than 0.5 pH units.

d. Un-ionized Ammonia — 0.025 mg/l as N Annual Median; 0.4 mg/l as N Maximum.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 90-023. Order No. 90-023 is hereby rescinded.

2. The discharger shall comply with all sections of this Order upon adoption.

3. Compliance with Acute Toxicity Effluent Limitation

   a. Compliance with Effluent Limitation for Acute Toxicity shall be evaluated by measuring survival of test fishes exposed to undiluted effluent for 96 hours in static renewal bioassays. Two fish species will be tested concurrently. Each fish species represents a single bioassay.

   b. The two compliance species shall be as specified by the Executive Officer. The discharger shall conduct a minimum of one screening of three species: three-spine stickleback, rainbow trout and fathead minnow. All tests in a single screening must be completed within ten days of each other. The three species screening requirement can be met using either flow-through or static renewal bioassays. The discharger shall submit screening data acceptable to the Executive Officer, within 4 months after adoption of this Order.

   c. The Executive Officer may consider allowing compliance monitoring with only one fish species (the most sensitive of two) if the discharger can document that the acute toxicity limitation, specified above, has not been exceeded during the previous three years, or that acute toxicity has been observed in only one of two fish species.

d. All bioassays shall be performed according to protocols approved by the USEPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association.

4. All applications, reports, or information submitted to the Board shall be signed and certified pursuant to USEPA regulations 40 CFR 122.41(k).

5. The discharger shall review and update by December 31, annually, its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will

   be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

6. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

7. The discharger shall comply with all applicable items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated August 1993.

8. This Order expires February 20, 2002. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as applicable for issuance of new waste discharge requirements.

9. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objections to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Loretta K. Barsamian, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on February 19, 1997.

Loretta K. Barsamian

LORETTA K. BARSAMIAN
Executive Officer

Attachments:

Standard Provisions & Reporting Requirements, August 1993
Self-Monitoring Program
Resolution No. 74-10

[File No. 2119.1071B]
[Originator/VBP]
[Reviewer/GHW]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR
EAST BAY MUNICIPAL UTILITY DISTRICT
WALNUT CREEK WATER TREATMENT PLANT
WALNUT CREEK, CONTRA COSTA COUNTY

NPDES NO. CA0038270
ORDER NO. 97-022

CONSISTS OF

PART A, dated August 1993
AND
PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

NOTE: A sketch showing the locations of the stations described below shall accompany each self-monitoring report, and Annual report for each calendar year.

a. Intake

Station	Description
I-1	At any point in the raw water supply prior to any treatment.

b. Effluent

Station	Description
E-001	At any point in the Outfall Pipe E-001.
E-002	At any point in the Outfall Pipe E-002.

c. Receiving Waters

Station	Description
C-1	At a point in Grayson Creek, located approximately 100 feet upstream from Outfall E-001 point of discharge.
C-2	At a point in Grayson Creek, located approximately 25 feet downstream from Outfall E-001 point of discharge.
C-3	At a point in Grayson Creek, located approximately 100 feet upstream from Outfall E-002 point of discharge.
C-4	At a point in Grayson Creek, located approximately 25 feet downstream from Outfall E-002 point of discharge.

II. Schedule of Sampling and Analysis

a. The schedule of sampling and analysis shall be that given as Table I.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 97-022.

2. Is effective on February 19, 1997.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

Loretta K. Barsamian

LORETTA K. BARSAMIAN
Executive Officer

Attachments:
A. Table I with Footnotes

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS
NPDES NO. CA0038270
ORDER NO. 97-022

SAMPLING STATIONS	E-001		E-002		C-1 thru C-4		I
TYPE OF SAMPLES	C-24	G	C-24	G	G	O	G
Flow Rate (mgd)		D[1]		D[1]			
Settleable Matter (ml/l-hr.)		D		D			
Total Suspended Solids (mg/l & Kgs/day		D		D			
Aluminum dissolved (μg/l & Kgs/day)		Y		Y			
Chlorine Residual (mg/l)		D		D			
pH (Units)		D		D	D		D
Acute Fish Toxicity, 96-Hour (% Survival in undiluted waste)		Y		Y			
Turbidity (NTU)		D			D		
All Applicable Standard Observations						D	

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
E = waste effluent stations
C = receiving water stations

FREQUENCY OF SAMPLING

Y = yearly
M = monthly
W = weekly
D = daily when there is a discharge

FOOTNOTES:

1. An estimate is acceptable. Basis of calculation shall be stated.